

CLAIMS

1. A compressor used in a refrigerating cycle, wherein:
in an area where a bottom surface and an inner circumferential surface of a housing connect with each other, said bottom surface assumes an R-shaped portion and said inner circumferential surface forms a sloping portion or an R-shape portion.
2. A compressor according to claim 1, wherein:
said R-shaped portion at said bottom surface measures in a 2 to 10mm range.
3. A compressor according to claim 1 or claim 2, wherein:
the largest diameter of said R-shaped portion of said bottom surface is equal to or greater than the internal diameter of said inner circumferential surface of said housing.
4. A compressor according to any of claims 1 through 3, wherein:
said sloping portion assumed that said inner circumferential surface is achieved as a substantially circular conic contour connecting the largest diameter portion of said R-shaped portion at said bottom surface and said inner circumferential surface.
5. A compressor used in a refrigerating cycle, wherein:
at least one of components constituting a housing and internal mechanisms is formed by using a tough material achieving a tensile strength greater than 800 N/mm^2 at normal temperature.
6. A compressor according to claim 5, wherein:
the tensile strength of said tough material at maximum operating temperature is equal to or greater than 80% of the tensile strength at normal temperature.

7. A compressor according to claim 6 or 7, wherein:
said tough material is cast iron.
8. A compressor according to claim 7, wherein:
said cast iron has undergone an austempering treatment and has a bainitic structure.
9. A compressor according to claim 5 or 6, wherein:
said tough material is a titanium alloy.
10. A compressor according to claim 9, wherein:
said titanium alloy has undergone a solution heat treatment and an aging treatment.
11. A compressor according to claim 5 or 6, wherein:
said tough material is manufactured through casting.
12. A compressor according to claim 5 or 6, wherein:
said tough material is manufactured through a powder metallurgical method.
13. A compressor according to any of claims 1 through 12, wherein:
carbon dioxide is used as a coolant.

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AMENDMENT

(Amended Claims under Article 34)

International Application No.: PCT/JP2003/014430

Applicant: ZEXEL VALEO CLIMATE CONTROL CORPORATION

Title: COMPRESSOR

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Amended Claims (under PCT § 34)

1. (amended) A compressor used in a refrigerating cycle, wherein:

in an area where a bottom surface and an inner circumferential surface of a housing connect with each other, said bottom surface forms an R-shaped portion and said inner circumferential surface forms a sloping portion or an R-shaped portion with the largest diameter of said R-shaped portion at said bottom surface equal to or larger than the internal diameter of said inner circumferential surface of said housing.

2. (amended) A compressor used in a refrigerating cycle wherein:

in an area where a bottom surface and an inner circumferential surface of a housing connect with each other, said bottom surface forms an R-shaped portion and said inner circumferential surface forms a sloping portion or an R-shaped portion with said sloping portion of said inner circumferential surface achieving a substantially circular conic contour connecting the largest diameter portion of said R-shaped portion at said bottom surface and said inner circumferential surface.

3. A compressor according to claim 1 or 2, wherein:

said R-shaped portion at said bottom surface measures in a 2 to 10mm range.

4. (deleted)

5. (amended) A compressor according to claim 1 or 2, wherein:
at least one of components constituting a housing and internal mechanisms is formed by using a tough material achieving a tensile strength greater than 800 N/mm² at normal temperature.
6. A compressor according to claim 5, wherein:
the tensile strength of said tough material at maximum operating temperature is equal to or greater than 80% of the tensile strength at normal temperature.
7. (amended) A compressor according to claim 5 or 6, wherein:
said tough material is cast iron.
8. A compressor according to claim 7, wherein:
said cast iron has undergone an austempering treatment and has a bainitic structure.
9. A compressor according to claim 5 or 6, wherein:
said tough material is a titanium alloy.
10. A compressor according to claim 9, wherein:
said titanium alloy has undergone a solution heat treatment and an aging treatment.

11. A compressor according to claim 5 or 6, wherein:
said tough material is manufactured through casting.
12. A compressor according to claim 5 or 6, wherein:
said tough material is manufactured through a powder metallurgical method.
13. A compressor according to any of claims 1 through 12, wherein:
carbon dioxide is used as a coolant.